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| EXAMINER | |
|---|---|
| NGUYEN, TRONG H | |
| **ART UNIT** | **PAPER NUMBER** |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/553,077 | IWATSU ET AL. | |
| | Examiner | Art Unit | |
| | TRONG NGUYEN | 2436 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-5,7-13 and 15-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-13 and 15-22* is/are rejected.

7)☒ Claim(s) *17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 06/10/2009 has been entered.

2. **Claims 1-5, 7-13 and 15-22** are pending.

3. The objection to **claims 1, 10-13, 15-17 and 22** has been withdrawn due to Applicants' amendments.

### *Response to Arguments*

4. Applicant's arguments, see Remarks, filed 05/21/2009, with respect to the rejection(s) of **claim(s) 1-5, 7-13, and 15-22** under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of cited references.

### *Claim Objections*

5. **Claim 17** is objected to because of the following informalities:

"of" on line 3 after "area" of **claim 17** should be "from".

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1-2, 10-11 and 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki et al. US 2002/0065665 (hereinafter "Hamasaki") in view of Yoshida US 5,630,111 (hereinafter "Yoshida") and further in view of Tran US 2002/0194609 A1 (hereinafter "Tran").

**Regarding claim 1**, Hamasaki discloses "**An information processing apparatus comprising**" as [a digital data decompressing system (Col. 1, Par. 0015, line 1)] "**processing means for carrying out at least a processing of decoding encoded unit data and a pre-decoding processing related to said unit data, said pre-decoding processing being carried out prior to said processing of decoding**;" as ["If it is judged that writing can be started, control proceeds to the next step S23, where a header part is decoded by the bit stream processor 602 to obtain the number of data items within the frame. (Fig. 11, Col. 6, Par. 0077, line 8-11) and "Next, sample data is extracted from a bit stream to perform Huffman decoding (step S24)." (Fig. 11, Col. 6, Par. 0078, line 1-2)] "**storage means where decoded data obtained on said processing of decoding are written and transiently stored, said storage means**

**including at least one transient storage area**" as ["The decoded sample data of each frequency band is stored in a bank of bank number i (=0) set by step S21" (Fig. 11, Col. 6, Par. 0078, line 2-4)] "**and outputting means from which the decoded data stored in said storage means is continuously read out and output as data for reproduction/outputting**;" as ["Decoded audio data stored in buffer 605 is supplied to a DA converter 200, where it is converted to an analog signal before being reproduced by a sound output unit 300 such as headphones, earphones, or loudspeaker." (Fig. 1, Col. 3, Par. 0044, line 14-17) This method of outputting is done in a continuous manner since the signal going to the headphone etc. is continuous.] "**said processing means commencing the processing of decoding of said unit data after the end of the pre-decoding processing related to said unit data**." as [With respect to this limitation, Hamasaki discloses Huffman decoding (step 24) starts after decode header part is finished (step 23)].

Hamasaki does not specifically disclose "**data capacity changing means for changing a data capacity of said at least one transient storage area depending on a total length of reproducing time for said unit data <u>such that when the total length of reproducing time is greater or equal to a threshold duration, the data capacity is set to a first value and when the total length of reproducing time is less than the threshold duration the data capacity is set to a second value greater than the first value</u>**".

However, Yoshida discloses a digital processing apparatus wherein the capacity of the buffer RAM 18 varies due to the accuracy (allowable deviation) of the crystal

oscillation, continuous data reproduction time, etc. If data reproduction is carried out for 30 minutes at max. with the use of a crystal oscillator having a deviation of, for example, 25 ppm, then the storage capacity of the buffer RAM 18 may become 127008.times.(1/2).times.(1/2)=31752 bytes, thus making it possible to use a 32 k byte RAM (Col. 7, lines 35-41). Moreover, Yoshida discloses a storage capacity of the memory is set to be greater than a maximum amount of unprocessed data accumulated in the memory which is calculated from the frequency shifts of the first and second clocks and maximum data reproduction time at the disc reproduction section (Col. 2, lines 22-27).

Yoshida and Hamasaki are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki by **changing the data capacity of said at least one transient storage area depending on a total length of reproducing time for said unit data** as described by Yoshida for the purpose of preventing the buffer RAM 18 from being placed in an over- or an underflowed state and it is possible to perform a normal data reproduction (Yoshida, Col. 7, lines 55-62).

Furthermore, Tran discloses a dynamically allocable video buffer wherein if the amount of unplayed video data in the buffer falls below a predetermined or programmed threshold (e.g. 10% of total buffer capacity or 1MB in a 10 MB buffer) or falls below the threshold more than a certain number of times in a certain amount of time, the capacity of the video buffer is enlarged (Figs. 4A-4D, col. 4, par. 0037, lines 7-19, par. 0038,

lines 1-8) and if the amount of unplayed video data in the buffer does not fall below a predetermined or programmable threshold (e.g. 80% or a certain number of bytes of the total buffer capacity) over a certain time period, the data capacity of the video buffer is decreased (Figs. 5A-5B, col. 5, par. 0042, lines 8-15). In addition, it is well known and expected in the art that a small amount of data corresponds to a shorter total reproducing time while a large amount of data corresponds to a longer total reproducing time (e.g. US 2002/0178450 A1, Fig. 2, 404 and 406, col. 3, par. 0041, lines 8-9, 21-23, 26-28). Thus, official notice is taken.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida by including **such that when the total length of reproducing time is greater or equal to a threshold duration, the data capacity is set to a first value and when the total length of reproducing time is less than the threshold duration the data capacity is set to a second value greater than the first value** as described by Tran for the purpose of efficiently receiving and playing video while avoiding underflow and maintaining optimal storage capacity (Tran, col. 1, par. 0004, last 4 lines, col. 2, par. 0024, last 5 lines, col. 4, par. 0036, last 4 lines).

**Regarding claim 2**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 1 wherein, if second unit data is reproduced/output next to first unit data, said processing means commences pre-decoding processing related to said second unit data after the end of the processing of decoding of said first unit data.**" as ["It is judged

in step S34 whether decoding for all frames terminates, and when it does not terminate, control returns to step S21 to repeat the above processing." (Hamasaki, Fig. 11, Col. 6, Par. 0081, line 8-10). This shows that when the next frame is reproduced, its header decoding starts after Huffman decoding of previous frame is finished].

**Regarding claim 10**, Hamasaki discloses "**An information processing method comprising**" as [a digital data decompressing system and method (title)] "**pre-decoding encoded unit data;**" as ["If it is judged that writing can be started, control proceeds to the next step S23, where a header part is decoded by the bit stream processor 602 to obtain the number of data items within the frame. (Fig. 11, Col. 6, Par. 0077, line 8-11)] "**storing said unit data in at least one transient storage area**;" as [a bank memory 603 comprising RAM in which decoded data and data subjected to computation processing are stored (Col. 3, Par. 0044, lines 5-7; Col. 4, Par. 0054, lines 10-14)] "**decoding said unit data after the end of said pre-decoding**;" as ["Next, sample data is extracted from a bit stream to perform Huffman decoding (step S24)." (Fig. 11, Col. 6, Par. 0078, line 1-2)] "**transiently storing decoded data obtained on said decoding**;" as ["The decoded sample data of each frequency band is stored in a bank of bank number i (=0) set by step S21" (Fig. 11, Col. 6, Par. 0078, line 2-4)] "**successively reading out said decoded data transiently stored by said transiently storing and outputting the read-out decoded data as data for reproduction/outputting**." as ["The synthesized data is successively stored in the buffer 605 as PCM sound source data." (Col. 4, Par. 0051, line 6-8) and "Decoded audio data stored in buffer 605 is supplied to a DA converter 200, where it is converted

to an analog signal before being reproduced by a sound output unit 300 such as headphones, earphones, or loudspeaker." (Fig. 1, Col. 3, Par. 0044, line 14-17)]

Hamasaki does not specifically disclose "**changing a data capacity of at least one transient storage area depending on a total length of reproducing time for said unit data such that when the total length of reproducing time is greater or equal to a threshold duration, the data capacity is set to a first value and when the total length of reproducing time is less than the threshold duration the data capacity is set to a second value greater than the first value**."

However, Yoshida discloses a digital processing apparatus wherein the capacity of the buffer RAM 18 varies due to the accuracy (allowable deviation) of the crystal oscillation, continuous data reproduction time, etc. If data reproduction is carried out for 30 minutes at max. with the use of a crystal oscillator having a deviation of, for example, 25 ppm, then the storage capacity of the buffer RAM 18 may become 127008.times.(1/2).times.(1/2)=31752 bytes, thus making it possible to use a 32 k byte RAM (Col. 7, lines 35-41). Moreover, Yoshida discloses a storage capacity of the memory is set to be greater than a maximum amount of unprocessed data accumulated in the memory which is calculated from the frequency shifts of the first and second clocks and maximum data reproduction time at the disc reproduction section (Col. 2, lines 22-27).

Yoshida and Hamasaki are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki by **changing a data capacity of at least one transient storage area depending on a total length of reproducing time for said unit data** as described by Yoshida for the purpose of preventing the buffer RAM 18 from being placed in an over- or an underflowed state and it is possible to perform a normal data reproduction (Yoshida, Col. 7, lines 55-62).

Furthermore, Tran discloses a dynamically allocable video buffer wherein if the amount of unplayed video data in the buffer falls below a predetermined or programmed threshold (e.g. 10% of total buffer capacity or 1MB in a 10 MB buffer) or falls below the threshold more than a certain number of times in a certain amount of time, the capacity of the video buffer is enlarged (Figs. 4A-4D, col. 4, par. 0037, lines 7-19, par. 0038, lines 1-8) and if the amount of unplayed video data in the buffer does not fall below a predetermined or programmable threshold (e.g. 80% or a certain number of bytes of the total buffer capacity) over a certain time period, the data capacity of the video buffer is decreased (Figs. 5A-5B, col. 5, par. 0042, lines 8-15). In addition, it is well known and expected in the art that a small amount of data corresponds to a shorter total reproducing time while a large amount of data corresponds to a longer total reproducing time (e.g. US 2002/0178450 A1, Fig. 2, 404 and 406, col. 3, par. 0041, lines 8-9, 21-23, 26-28). Thus, official notice is taken.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida by including **such that when the total length of reproducing time is greater or equal to**

**a threshold duration, the data capacity is set to a first value and when the total length of reproducing time is less than the threshold duration the data capacity is set to a second value greater than the first value** as described by Tran for the purpose of efficiently receiving and playing video while avoiding underflow and maintaining optimal storage capacity (Tran, col. 1, par. 0004, last 4 lines, col. 2, par. 0024, last 5 lines, col. 4, par. 0036, last 4 lines).

**Regarding claim 11**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing method according to claim 10 wherein, when second unit data is reproduced/output next to first unit data, pre-decoding second unit data is commenced after the end of decoding first unit data**" as ["It is judged in step S34 whether decoding for all frames terminates, and when it does not terminate, control returns to step S21 to repeat the above processing." (Hamasaki, Fig. 11, Col. 6, Par. 0081, line 8-10). This shows that when the next frame is reproduced, its header decoding starts after Huffman decoding of previous frame is finished.].

**Regarding claim 18**, Hamasaki discloses "**An information processing apparatus comprising**:" [a digital data decompressing system (Col. 1, Par. 0015, line 1)] "**a decoder configured to decode encoded unit data and to pre-decode data related to said unit data, pre-decoding being carried out prior to decoding, the decoder commencing decoding of said unit data after an end of pre-decoding the data related to said unit data**;" [If it is judged that writing can be started, control proceeds to the next step S23, where a header part is decoded by the bit stream processor 602 to obtain the number of data items within the frame. (Fig. 11, Col. 6, Par.

0077, line 8-11) and "Next, sample data is extracted from a bit stream to perform Huffman decoding (step S24)." (Fig. 11, Col. 6, Par. 0078, line 1-2)] "**a storage unit configured to receive and transiently store decoded data decoded by the decoder, said storage unit including at least one transient storage area**" [The decoded sample data of each frequency band is stored in a bank of bank number i (=0) set by step S21" (Fig. 11, Col. 6, Par. 0078, line 2-4)] "**and an output unit configured to continuously read out and output the decoded data stored in said storage unit**." as [Decoded audio data stored in buffer 605 is supplied to a DA converter 200, where it is converted to an analog signal before being reproduced by a sound output unit 300 such as headphones, earphones, or loudspeaker." (Fig. 1, Col. 3, Par. 0044, line 14-17). This method of outputting is done in a continuous manner since the signal going to the headphone etc. is continuous].

Hamasaki does not specifically disclose **"a data capacity changing unit configured to change a data capacity of said transient storage area depending on a total length of reproducing time for said unit data such that when the total length of reproducing time is greater or equal to a threshold duration, the data capacity is set to a first value and when the total length of reproducing time is less than the threshold duration the data capacity is set to a second value greater than the first value**."

However, Yoshida discloses a digital processing apparatus wherein the capacity of the buffer RAM 18 varies due to the accuracy (allowable deviation) of the crystal oscillation, continuous data reproduction time, etc. If data reproduction is carried out for

30 minutes at max. with the use of a crystal oscillator having a deviation of, for example, 25 ppm, then the storage capacity of the buffer RAM 18 may become 127008.times.(1/2).times.(1/2)=31752 bytes, thus making it possible to use a 32 k byte RAM (Col. 7, lines 35-41). Moreover, Yoshida discloses a storage capacity of the memory is set to be greater than a maximum amount of unprocessed data accumulated in the memory which is calculated from the frequency shifts of the first and second clocks and maximum data reproduction time at the disc reproduction section (Col. 2, lines 22-27).

Yoshida and Hamasaki are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki by **changing a data capacity of said transient storage area depending on a total length of reproducing time for said unit data** as described by Yoshida for the purpose of preventing the buffer RAM 18 from being placed in an over- or an underflowed state and it is possible to perform a normal data reproduction (Yoshida, Col. 7, lines 55-62).

Furthermore, Tran discloses a dynamically allocable video buffer wherein if the amount of unplayed video data in the buffer falls below a predetermined or programmed threshold (e.g. 10% of total buffer capacity or 1MB in a 10 MB buffer) or falls below the threshold more than a certain number of times in a certain amount of time (e.g. 30 seconds), the capacity of the video buffer is enlarged (Figs. 4A-4D, col. 4, par. 0037, lines 7-19, par. 0038, lines 1-8) and if the amount of unplayed video data in the buffer

does not fall below a predetermined or programmable threshold (e.g. 80% or a certain number of bytes of the total buffer capacity) over a certain time period (e.g. 30 seconds), the data capacity of the video buffer is decreased (Figs. 5A-5B, col. 5, par. 0042, lines 8-15). In addition, it is well known and expected in the art that a small amount of data corresponds to a short total reproducing time while a large amount of data corresponds to a long total reproducing time (e.g. US 2002/0178450 A1, Fig. 2, 404 and 406, col. 3, par. 0041, lines 8-9, 21-23, 26-28). Thus, official notice is taken.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida by including **such that when the total length of reproducing time is greater or equal to a threshold duration, the data capacity is set to a first value and when the total length of reproducing time is less than the threshold duration the data capacity is set to a second value greater than the first value** as described by Tran for the purpose of efficiently receiving and playing video while avoiding underflow and maintaining optimal storage capacity (Tran, col. 1, par. 0004, last 4 lines, col. 2, par. 0024, last 5 lines, col. 4, par. 0036, last 4 lines).

**Regarding claim 19**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 18 wherein, if second unit data is reproduced/output next to first unit data, said decoder is configured to commence pre-decoding data related to said second unit data after an end of decoding said first unit data**" as [It is judged in step S34 whether decoding for all frames terminates, and when it does not terminate, control returns to step S21 to

repeat the above processing." (Hamasaki, Fig. 11, Col. 6, Par. 0081, line 8-10). This shows that when the next frame is reproduced, its header decoding starts after Huffman decoding of previous frame is finished].

**Regarding claim 20**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 18 wherein the decoder is configured to sequentially write decoded data, obtained during decoding, in said at least one transient storage area, from one data capacity of said transient storage area to another**," as [Hamasaki discloses sequentially writing decoded data, obtained during decoding, in said at least one transient storage area (see rejection to claim **18** above) and Yoshida discloses varying the storage capacity of the buffer (see rejection to claim **18** above). Therefore, it is obvious that decoded data is sequentially written, in said at least one transient storage area, from one data capacity of said transient storage area to another] "**and said output unit is configured to read out the written decoded data each time said decoded data is written in said at least one transient storage area**" as [Decoded audio data stored in buffer 605 is supplied to a DA converter 200, where it is converted to an analog signal before being reproduced by a sound output unit 300 such as headphones, earphones, or loudspeaker." (Hamasaki, Fig. 1, Col. 3, Par. 0044, line 14-17)].

8. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki in view of Yoshida, further in view of Tran, and further view of Liu et al. US 7,266,132 (hereinafter "Liu").

Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 1 wherein said storage means includes a plurality of transient storage areas**;" as ["a bank memory 603 comprising RAM in which decoded data and data subjected to computation processing are stored;" (Hamasaki, Fig. 1, Col. 3, Par. 0044, line 5-7) and "the bank memory 603 comprises, e.g., 36 banks BNK0, BNK1, ..., and BNK35." (Hamasaki, Col. 4, Par. 0054, line 1-2)] "**said outputting means reading out the written decoded data each time said decoded data is written in said transient storage area and outputting the data as data for reproduction/outputting**." as ["The synthesized data is successively stored in the buffer 605 as PCM sound source data." (Hamasaki, Col. 4, Par. 0051, line 6-8) and "Decoded audio data stored in buffer 605 is supplied to a DA converter 200, where it is converted to an analog signal before being reproduced by a sound output unit 300 such as headphones, earphones, or loudspeaker." (Hamasaki, Fig. 1, Col. 3, Par. 0044, line 14-17)] "**said processing means sequentially writes decoded data, obtained on processing of decoding, in said plurality of transient storage areas**," as [Hamasaki, Fig. 11 and see rejection to claim **1** above] but does not specifically disclose "**from one data capacity of a transient storage area to another**;".

However, Liu discloses "intelligent and flexible techniques for memory design and allocation of video data during transmission" [(Col. 1, line 9-11) "means for arranging a memory space to include multiple block pools, each block pool including a set of blocks having a memory size common to the block pool. The multiple block pools each having a different common memory size." (Fig. 3A, Col. 2, line 63-67) and "means

for storing data from the multiple bit streams in a block in one of the multiple block pools when the data has a storage requirement equal to or less than the common memory size for the block pool." (Col. 3, line 2-5)].

Hamasaki, Yoshida, Tran and Liu are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to enhance the digital data decompressing system of Hamasaki in view of Yoshida and further in view of Tran to arrange memory space into multiple block pools of different common memory size and to store data in one of the multiple block pools as disclosed by Liu in order to make the system more efficient and hence avoid excessive memory allotment or extra cost (see Liu Col. 1, line 44-45).

9. **Claims 4**, **12, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki in view of Yoshida, further in view of Tran, further in view of Jiyunsaku JP 2001243705 (hereinafter "Jiyunsaku") and further in view of Shinichi JP 11-312364 (hereinafter "Shinichi").

**Regarding claim 4**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 1 wherein said processing of decoding for unit data is the processing of demodulation**;" [see rejection to claim **1** above] but does not specifically disclose "**said processing of decoding for unit data is the processing of decryption**;" and "**said pre-decoding processing related to unit data is tamper check processing for said unit data**".

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during the decoding process since the encrypted compressed audio data must be decrypted at time of reproduction.

Hamasaki, Yoshida, Tran and Jiyunsaku are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida and further in view of Tran by including encryption and/or decryption during decoding and pre-decoding processes as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

Furthermore, Shinichi discloses a digital data record/playback equipment which “can detect easily whether it is that by which the digital data currently recorded on the medium was changed" (Par. 0010, line 1-3). As shown in Drawing 3, tamper check processing is carried out prior to decompression of data. By teaching method for tamper check processing prior to decompression of data, Shinichi also teaches pre-decoding processing related to unit data which is the tamper check processing for that unit data.

Hamasaki, Yoshida, Tran, Jiyunsaku and Shinichi are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida, further in view of Tran and further in view of Jiyunsaku by including a tamper check processing during pre-decoding process as taught by Shinichi in order to detect accidental or intentional error or alterations prior to decompressing the data.

**Regarding claim 12**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing method according to claim 10 wherein said decoding includes demodulating**;" [see rejection to claim **10** above] but does not specifically disclose "**said decoding includes decrypting**;" and "**wherein said pre-decoding is tamper check processing for said unit data**".

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during the decoding process since the encrypted compressed audio data must be decrypted at time of reproduction.

Hamasaki, Yoshida, Tran and Jiyunsaku are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida and further in view of Tran by including encryption and/or decryption during decoding and pre-decoding

processes as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

Furthermore, Shinichi discloses a digital data record/playback equipment which "can detect easily whether it is that by which the digital data currently recorded on the medium was changed" (Par. 0010, line 1-3). As shown in Drawing 3, tamper check processing is carried out prior to decompression of data. By teaching method for tamper check processing prior to decompression of data, Shinichi also teaches pre-decoding processing related to unit data which is the tamper check processing for that unit data.

Hamasaki, Yoshida, Tran, Jiyunsaku and Shinichi are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the digital data decompressing system of Hamasaki in view of Yoshida, further in view of Tran, and further in view of Jiyunsaku by including a tamper check processing during pre-decoding process as taught by Shinichi in order to detect accidental or intentional error or alterations prior to decompressing the data.

**Regarding claim 21**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 18 wherein said decoder is configured to perform demodulation processing**" [see rejection to claim **18** above] but does not specifically disclose "**configured to perform decryption**" and "**to perform tamper check processing for said unit data as the pre-decoding data related to unit data**."

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during the decoding process since the encrypted compressed audio data must be decrypted at time of reproduction.

Hamasaki, Yoshida, Tran and Jiyunsaku are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida and further in view of Tran by including encryption and/or decryption during decoding and pre-decoding processes as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

Furthermore, Shinichi discloses a digital data record/playback equipment which “can detect easily whether it is that by which the digital data currently recorded on the medium was changed" (Par. 0010, line 1-3). As shown in Drawing 3, tamper check processing is carried out prior to decompression of data. By teaching method for tamper check processing prior to decompression of data, Shinichi also teaches pre-decoding processing related to unit data which is the tamper check processing for that unit data.

Hamasaki, Yoshida, Tran, Jiyunsaku and Shinichi are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida, further in view of Tran and further in view of Jiyunsaku by including a tamper check processing during pre-decoding process as taught by Shinichi in order to detect accidental or intentional error or alterations prior to decompressing the data.

10. **Claims 5**, **13, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki in view of Yoshida, further in view of Tran, and further in view of Jiyunsaku.

**Regarding claim 5**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 1 wherein said processing of decoding for unit data is the processing of demodulation**;" [see rejection to claim **1** above] and "**and wherein said pre-decoding processing related to unit data is processing of demodulation for relevant data pertinent to said unit data**." [see rejection to claim **1** above] but does not specifically disclose "**said processing of decoding for unit data is the processing of decryption**;" and "**and wherein said pre-decoding processing related to unit data is processing of decryption for relevant data pertinent to said unit data**."

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a

method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during decoding and pre-decoding processes since the encrypted compressed audio data must be decrypted at time of reproduction.

Hamasaki, Yoshida, Tran, and Jiyunsaku are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to enhance the teaching of Hamasaki in view of Yoshida and further in view of Tran by including decryption and/or demodulation during decoding and pre-decoding processes as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

**Regarding claim 13**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing method according to claim 10 wherein said decoding includes demodulating**;" [see rejection to claim **10** above] and "**said pre-decoding includes demodulating for relevant data related to said unit data**." [see rejection to claim **10** above] but does not specifically disclose "**said decoding includes decrypting**;" and "**said pre-decoding includes decrypting for relevant data related to said unit data**."

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a

method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during the decoding process since the encrypted compressed audio data must be decrypted at time of reproduction.

Hamasaki, Yoshida, Tran, and Jiyunsaku are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to enhance the teaching of Hamasaki in view of Yoshida and further in view of Tran by including decryption and/or demodulation during decoding and pre-decoding processes as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

**Regarding claim 22**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 18 wherein said decoder is configured to perform demodulation processing**" as [see rejection to claim **18** above] and "**to perform demodulation for relevant data pertinent to said unit data as the pre-decoding data related to unit data**" as [see rejection to claim **18** above] but does not specifically disclose "**configured to perform decryption processing**" and "**to perform decryption for relevant data pertinent to said unit data as the pre-decoding data related to unit data**."

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a

method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during the decoding process since the encrypted compressed audio data must be decrypted at time of reproduction.

Hamasaki, Yoshida, Tran, and Jiyunsaku are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to enhance the teaching of Hamasaki in view of Yoshida and further in view of Tran by including decryption and/or demodulation for relevant data pertinent to said unit data as the pre-decoding data related to unit data as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

11. **Claims 7, 9 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki in view of Yoshida, further in view of Tran, and further in view of Simon et al US 4,918,523 (hereinafter "Simon").

**Regarding claim 7**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing apparatus according to claim 1 wherein said storage means includes a plurality of transient storage areas**; **said data capacity changing means changing the data area of said plurality of transient storage areas**" [see rejection to claim **1** above] but does not specifically disclose "**depending on the duration of processing time needed for said pre-decoding processing relevant to said unit data**."

However, Simon discloses a method that "measures the time it takes to decompress each sub-frame of the compressed digital video signal S10" by “applying the signal S10 to a decoder such as processor 30 of the playback system 8 and measuring the processor decode time” (Col 10, line 20-24).

Simon, Hamasaki, Yoshida and Tran are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to enhance the digital data decompressing system of Hamasaki in view of Yoshida and further in view of Tran by measuring the length of decoding time for the frame header and if desired to change transient storage area depending on the duration of decoding time for the frame header or pre-decoding processing as taught by Simon in order to monitor the amount of buffer storage needed by the playback system as mentioned by Simon (Col. 10, line 44-45).

**Regarding claim 9**, Hamasaki in view of Yoshida, further in view of Tran and further in view of Simon discloses “**The information processing apparatus according to claim 7 wherein said storage means includes a plurality of sets of transient storage areas**, **said data capacity changing means selecting one transient storage area from one of said plurality of sets of transient storage areas”** as [see rejection to claim **7** above] and Simon discloses “**depending on the duration of the processing time retained to be needed for said pre-decoding processing**.” [With respect to this limitation, Simon discloses a method that "measures the time it takes to decompress each sub-frame of the compressed digital video signal S10" by “applying the signal S10

to a decoder such as processor 30 of the playback system 8 and measuring the processor decode time" (Col 10, line 20-24). Simon's method allows measurement of the length of decoding time for the frame header or pre-decoding processing and if desired to select one transient storage area from plurality of sets of transient storage areas depending on the duration of decoding time for the frame header.].

**Regarding claim 15**, Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing method according to claim 10, further comprising: changing the data capacity of said at least one transient storage area**" [see rejection to claim **10** above] but does not specifically disclose "**depending on the duration of processing time retained to be needed for pre-decoding said unit data**."

However, Simon discloses a method that "measures the time it takes to decompress each sub-frame of the compressed digital video signal S10" by "applying the signal S10 to a decoder such as processor 30 of the playback system 8 and measuring the processor decode time" (Col 10, line 20-24).

Simon, Hamasaki, Yoshida and Tran are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to enhance the digital data decompressing system of Hamasaki in view of Yoshida and further in view of Tran by measuring the length of decoding time for the frame header and if desired to change data capacity of transient storage area depending on the duration of decoding time for the frame header or pre-decoding

processing as taught by Simon in order to monitor the amount of buffer storage needed by the playback system as mentioned by Simon (Col. 10, line 44-45).

12. **Claims 8 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki in view of Yoshida, further in view of Tran, further in view of Simon, and further in view of Jiyunsaku.

**Regarding claim 8**, Hamasaki in view of Yoshida, further in view of Tran and further in view of Simon discloses "**The information processing apparatus according to claim 7 wherein, if said pre-decoding processing relevant to unit data is the processing of demodulation of relevant data, related to said unit data**," [see rejection to claim **1** above] and "**the duration of the processing time needed for said pre-decoding processing is estimated based on the ancillary information added as relevant data**." as [See Simon, Col. 10, line 52-63, Simon discloses a method for estimating the decode time "based on the known decoding time characteristics of the video processor 30" such as "a fixed number of well define operations (say 'A', 'B', etc.) each of which requires a maximum length of time to complete" during the decoding process and the information about the input bit stream from the encoder which "can determine precisely how many times each of these operations will be performed for each sub-frame". Simon's method allows estimation of the duration of decoding time for frame header or pre-decoding processing based on ancillary information added as relevant data.].

Hamasaki, Yoshida, Tran and Simon do not specifically disclose if said pre-decoding processing relevant to unit data is the processing of decryption of relevant data, related to said unit data,".

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during decoding and pre-decoding processes since the encrypted compressed audio data must be decrypted at time of reproduction.

Jiyunsaku, Hamasaki, Yoshida, Tran and Simon are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida, further in view of Tran and further in view of Simon to include decryption during decoding and pre-decoding processes as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

**Regarding claim 16**, Hamasaki in view of Yoshida, further in view of Tran and further in view of Simon discloses "**The information processing method according to claim 15 wherein if said pre-decoding said unit data includes demodulating for relevant data related to unit data**" [see rejection to claim **10** above] and "**the duration**

**of the processing time, retained to be needed for said pre-decoding, is estimated based on the ancillary information annexed to said relevant data**." as [See Simon, Col. 10, line 52-63, Simon discloses a method for estimating the decode time "based on the known decoding time characteristics of the video processor 30" such as "a fixed number of well define operations (say 'A', 'B', etc.) each of which requires a maximum length of time to complete" during the decoding process and the information about the input bit stream from the encoder which "can determine precisely how many times each of these operations will be performed for each sub-frame". Simon's method allows estimation of the duration of decoding time for frame header or pre-decoding processing based on ancillary information annexed as relevant data.].

Hamasaki, Yoshida, Tran and Simon do not specifically disclose if said pre-decoding said unit data includes decrypting for relevant data related to unit data."

However, Jiyunsaku discloses recording and reproducing sound data in which data compression of the voice data DA is carried out by MP3 specification, it is changed into MP3 file Fmp3, and these MP3 file Fmp3 are supplied to the enciphering circuit 114 to be encrypted before recording on a CD-R disk (Par. 0026 and 0027). By teaching a method of encrypting compressed audio data, Jiyunsaku also teaches method of decrypting encrypted compressed audio data during decoding and pre-decoding processes since the encrypted compressed audio data must be decrypted at time of reproduction.

Jiyunsaku, Hamasaki, Yoshida, Tran and Simon are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida, further in view of Tran and further in view of Simon to include decryption during decoding and pre-decoding processes as disclosed by Jiyunsaku in order to raise the security of recorded voice data (as taught by Jiyunsaku).

13. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki in view of Yoshida, further in view of Tran, further in view of Liu and further in view of Simon.

Hamasaki in view of Yoshida and further in view of Tran discloses "**The information processing method according to claim 10 further comprising: selecting one transient storage area of a plurality of sets of transient storage areas, each set being made up of a plurality of transient storage areas**" [see rejection to claim **10** above] but does not specifically disclose "**having different storage capacities, depending on the duration of the processing time retained to be needed for said pre-decoding**."

However, Liu discloses "intelligent and flexible techniques for memory design and allocation of video data during transmission" [(Col. 1, line 9-11) "means for arranging a memory space to include multiple block pools, each block pool including a set of blocks having a memory size common to the block pool. The multiple block pools each having a different common memory size." (Fig. 3A, Col. 2, line 63-67) and "means for storing data from the multiple bit streams in a block in one of the multiple block pools

when the data has a storage requirement equal to or less than the common memory size for the block pool." (Col. 3, line 2-5)].

Hamasaki, Yoshida, Tran and Liu are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida and further in view of Tran to arrange memory space into multiple block pools of different common memory size and to store data in one of the multiple block pools as disclosed by Liu in order to make the system more efficient and hence avoid excessive memory allotment or extra cost (see Liu Col. 1, line 44-45).

Furthermore, Simon discloses a method that "measures the time it takes to decompress each sub-frame of the compressed digital video signal S10" by “applying the signal S10 to a decoder such as processor 30 of the playback system 8 and measuring the processor decode time” (Col 10, line 20-24).

Simon, Hamasaki, Yoshida, Tran and Liu are analogous art because they are in the same field of endeavor of digital data processing.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Hamasaki in view of Yoshida, further in view of Tran and further in view of Liu by measuring the length of decoding time for the frame header and if desired to select one transient storage area from a plurality of sets of transient storage areas depending on the duration of decoding time for the frame header or pre-decoding processing as taught by Simon in order to monitor the amount

of buffer storage needed by the playback system as mentioned by Simon (Col. 10, line 44-45).

***Conclusion***

14. Examiner cites particular columns and line numbers in the references as applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRONG NGUYEN whose telephone number is (571)270-7312. The examiner can normally be reached on Monday through Thursday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NASSER MOAZZAMI can be reached on (571)272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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